

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is requested.

Claims 1-16 are pending. Claim 7-13, 15 and 16 were withdrawn by the outstanding Office Action. As no amendments are presently made, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claims 1-6 and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over Shimizu et al. (U.S. Patent No. 4,562,123, hereinafter “Shimizu”) in view of Wilson (U.S. Patent No. 6,808,838).

Turning now to the outstanding rejection under 35 U.S.C. § 103(a), this rejection is respectfully traversed as discussed below.

Claim 1 recites:

A mixing tank for a fuel cell, comprising:
a container housing fuel for the fuel cell;

an absorbent member housed in the container, the absorbent member having a space;

an inlet flow path interconnecting the fuel cell and the container so as to conduct an exhaust from the fuel cell to the container and admix the exhaust with the fuel to form a mixture absorbed in the absorbent member;

an exhaust flow path interconnecting the space and an outside of the mixing tank so as to conduct gas in the space to the outside; and

an outlet flow path interconnecting the absorbent member and the fuel cell so as to conduct the mixture absorbed in the absorbent member to the fuel cell.

In a non-limiting exemplary embodiment, the mixing fuel tank includes a mixing container which houses a liquid absorbent member for absorbing liquid and a space separate

from the liquid absorbing member to allow gas to be exhausted from the mixing container.¹ Additionally, an exhaust outlet flow path is provided between the space and exterior of the mixing container to allow exhaust gas to be exhausted from the container.²

Shimizu describes a liquid fuel cell including a methanol tank 27 having holes 28a and 29a to supply fuel to a separator 25 and to receive exhaust gas from the separator 25.³ However, as conceded at page 3 of the outstanding Office Action, Shimizu does not disclose or suggest an absorbent member housed in the tank 27.

Instead, the outstanding Office Action relies on Wilson as describing the claimed “absorbent member.” Wilson describes a methanol fuel cell including an anode side 28 with a reservoir cavity 34 on a back end of the anode 28, and the cavity containing a super absorbent material 36.⁴

However, it is respectfully submitted that Wilson does not disclose or suggest “an absorbent member housed in the container, the absorbent member having a space,” as recited in Claim 1.

It appears that the outstanding Office Action takes the position that the pores included in the absorbent member described in Wilson equate to the claimed “space.” Initially, it is respectfully submitted that the position that the pores described in Wilson equate to the claimed “space” is beyond the broadest reasonable interpretation of the term “space.” However, regardless of whether the pores described in Wilson can be interpreted as the claimed “space,” Wilson does not disclose or suggest “an exhaust flow path interconnecting the space in an outside of the mixing tank so as to conduct gas in the space to the outside,” as recited in Claim 1.

¹ See the original specification, at page 8, lines 10-17, at page 9, line 25 to page 10, line 8, and in Figures 3, 4, 5A and 6.

² See the original specification, at page 9, line 25 to page 10, line 8.

³ See Shimizu, at column 9, lines 4-34.

⁴ See Wilson, at column 6, lines 12-24.

Further, Wilson describes that “tie-bolts clamp the structure together.”⁵ One skilled in the art would understand that, due to the clamping the structure together via tie-bolts, any clearance space between the absorbent material 36 and the side of the structure could not be maintained. Thus, it is respectfully submitted that Wilson does not disclose or suggest that the absorbent material 36 has a “space,” as recited in Claim 1.

Additionally, even assuming the combination of the super absorbent material 36 described in Wilson with the liquid fuel cell described in Shimizu is proper, it is respectfully submitted that such a combination does not disclose or suggest “an absorbent member housed in the container, the absorbent member having a space” and “an exhaust flow path interconnecting the space and an outside of the mixing tank disposed to conduct gas in the space to the outside,” as recited in Claim 1.

Instead, incorporating the super absorbent material 36 described in Wilson into an entirety of the tank 27 described in Shimizu would result in fuel being provided through both the holes 28a and 29b at the same time, rendering the fuel cell described in Shimizu unsatisfactory for its intended purpose. See MPEP § 2143.01(V). Alternatively, if super absorbent material 36 from Wilson is provided into the liquid fuel cell described in Shimizu such that the super absorbent material 36 does not cover one of the holes 28b or 28a, it is respectfully submitted that such a combination would not disclose or suggest an exhaust flow path interconnecting the space of the absorbent member in an outside of the mixing tank so as to conduct gas in the space of the super absorbent material 36 to the outside.

Therefore, it is respectfully submitted that a person of ordinary skill in the art would not be motivated to combine the cited references. Further, even assuming the combination is proper, it is respectfully submitted that a *prima facie* case of obviousness has not been made as such a combination does not disclose or suggest every feature recited in Claim 1. Thus, it

⁵ See Wilson, at column 6, lines 29-30.

is respectfully requested that the outstanding rejection of Claim 1, and all claims dependent thereon, as unpatentable over Shimizu in view of Wilson be withdrawn.

Claim 14 recites, *inter alia*, a fuel cell system including “an absorbent member housed in the container, the absorbent member having a cavity therein” and “an exhaust flow path interconnecting the cavity and an outside of the mixing tank so as to conduct gas in the cavity to the outside.” Based upon the above discussion of Shimizu in view of Wilson, it is respectfully submitted that even assuming the combination of Shimizu in view of Wilson is proper, this combination does not disclose or suggest every feature recited in Claim 14. Thus, it is respectfully requested that the outstanding rejection of Claim 14 as unpatentable over Shimizu in view of Wilson be withdrawn.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants’ undersigned representative at the below-listed telephone number.

Respectfully submitted,

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